

**REMARKS**

Claims 1 and 3-7 are pending in this application. Claims 1 and 5-7 have been amended to more particularly point out and distinctly claim Applicants' invention. No new matter is added. The features in the claims as amended were present in the originally filed specification.

**Information Disclosure Statements**

Applicants did not receive as part of the Office Action of July 22, 2003 neither the Information Disclosure Statements filed on October 17, 2001 nor the Supplemental Information Disclosure Statement of November 25, 2002 which were submitted on Form PTO-A820 which is also Form 1449. Applicants request that the Examiner review and initial the Information Disclosure Statements and return a copy of the forms to applicants.

**The Invention**

The present invention is directed to the use of low-molecularized pectin in acidic protein foods at a concentration of greater than 0.4%, thereby allowing to stabilize the dispersion of milk proteins in the acidic protein foods while also lowering the viscosity of the acidic protein foods to give the products a more palatable texture, and also widen the pH range in which stabilization is possible to above the isoelectric point. The present invention having such characteristic features is believed to be clearly distinguished from the cited art.

**35 U.S.C. 112, Second Paragraph, Rejections**

Claims 1 and 3-7 are rejected under 35 U.S.C. 112, second paragraph, on the grounds that the phrase "low-molecularized pectin" is allegedly vague and indefinite. Applicants have amended independent claims 1 and 5-7 to include the feature that the

pectin is low-molecularized to a degree such that the viscosity of a 5% solution at 25° C is greater than 150 mPa·s. With respect to the phrase "low-molecularized pectin", applicants submit that they have amended the claims to obviate the rejection. This feature is set forth on page 3, lines 12-17. Therefore, applicants believe that the phrase "low-molecularized pectins" is clearly understood by a person skilled in the art. Accordingly, applicants respectfully request that the rejection be withdrawn.

### **35 U.S.C. 103 Rejections**

Claims 1, 3 and 4 are rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent 5,607,714 to Connolly in view of U.S. Patent 5,690,975 to Akahoshi. Applicants herein respectfully traverse the rejection. The Office Action states that Connolly discloses a low-molecularized pectin since the pectins are allegedly considered to be of a low molecular weight on account of being heated to 160 to 170 degrees F. It is respectfully submitted that the acidic protein beverage disclosed in Connolly does not contain a low-molecularized pectin. The Examiner alleges that a low-molecularized pectin is produced by heating high methoxy pectin at a temperature of 160 to 170 °F (71 to 77°C) and that this is the same as the heating at 75 to 85°C as described on page 4 of the present specification.

However, it is submitted that the low-molecularized pectin of the present claimed invention is patentably different from the pectin compositions described in Connolly. The temperatures described in the Connolly reference are temperatures at which a normal, high molecular weight pectin is extracted. This can be seen from Sample No. 2 in Table 3 of page 11 of the specification of the present application where it can be seen that pectin is not decomposed at a temperature of the level set forth in U.S. Patent to Connolly.

In Sample 2 of Table 3, thermolytic treatment was performed on a sample of pectin by heating the sample for ten (10) minutes at a temperature of 85 degrees C. The viscosity

of a 5% solution was then measured and determined to be 262.5 mPa·s. This effect is further described on page 4, lines 27 - 31, of the present specification that pectin must be heated to above 100°C to prepare a low-molecularized pectin. Therefore, in response to the Examiner's assertion that the heating of pectin on page 4, lines 23-36 as cited in the paragraph bridging page 2 and 3 of the Office Action makes Connolly's pectin the equivalent of the claimed low-molecularized pectin, it is submitted that no low-molecularized pectin as described in the claims is produced at the low temperatures as described in the cited examples of Connolly because the claims have been amended such that they are directed to low-molecularized pectins such that the viscosity of a 5% solution at 25°C is no greater than 150 mPa·s.

With respect to the rejection of claims 3 and 4 which are directed to an acidic protein food which is a beverage, applicants submit the following arguments. Although the beverage disclosed in the example of Connolly contains about 0.8% of pectin, the addition of normal pectin at such a high concentration can naturally stabilize proteins. However, as is seen from the data shown in Table 6 of the present specification, if a normal pectin is added at a high concentration of 0.8%, the beverage will have a high viscosity, so that an acidic protein beverage cannot be obtained. Further, if the pH is not lower than 5.0, the beverage is gelled or coagulated (Table 6 of the present specification).

In view of the above differences between the compositions disclosed in Connolly and those of the present invention, it is respectfully submitted that the cited reference does not contain a teaching, suggestion or motivation for one of ordinary skill in the art to arrive at the present invention. Therefore, it is respectfully requested that the rejection of claims 1, 3 and 4 over Connolly in view of Akahoshi be withdrawn.

Although it cannot be determined from the Office Action how the Akahoshi reference was applied by the examiner to the rejection of claims 1, 3 and 4, applicants remarks with respect to the Akahoshi patent apply to the extent applicable to the above rejection as well as the rejection of claim 5 over Akahoshi.

Claim 5 is rejected under 35 U.S.C. 103(a) over U.S. Patent 5,690,975 to Akahoshi. Applicants respectfully traverse the rejection. Akahoshi et al. (U.S. Patent No. 5,690,975) discloses the addition of a specific high molecular weight pectin of a blockwise-type, but the reference does not teach the addition of low-molecularized pectin in an amount of 0.4 wt. % as claimed in claim 5. Accordingly, the Examiner states that heating the solution disclosed in the reference at 100°C for fifteen (15) minutes would have made a low-molecularized pectin. However, Akahoshi et al. definitely does not teach the production of a low-molecularized pectin by heat treatment as claimed in claim 6. In fact, in the examples of Akahoshi et al., the pectin is added only at 0.35% which is lower than 0.4% as set forth in claims 1 and 3-6. Therefore, it is clear that the obtained yogurt drink does not contain a low-molecularized pectin at a level as defined in the present claimed invention.

Therefore, applicants respectfully request reconsideration and withdrawal of the rejection of claim 5 over Akahoshi.

On page 4 of the Office Action, claims 1-4, 6 and 7 are rejected over 35 U.S.C. 103(a) as being unpatentable over Akahoshi as applied to claim 5 and further in view of U.S. Patent 5,498,702 to Mitchell. Applicants respectfully traverse the rejection. The Office Action states that Akahoshi fails to disclose the step of heating the protein-containing food having pectin at 100 degrees C rather than heating the pectin separately. The Examiner then cites the Mitchell reference as allegedly disclosing this teaching. Mitchell discloses a process for preparing a low-molecularized pectin. However, Mitchel et al. neither teaches nor suggests the use of the low-molecularized pectin as a stabilizer. That is, Mitchel et al.

is silent concerning the use of low-molecularized pectin in acidic protein foods at the claimed concentration of greater than 0.4%, thereby allowing the stabilization of the dispersion of milk proteins in the acidic protein foods while also lowering the viscosity of the acidic protein foods to give the products a more palatable texture, and also widen the pH range in which stabilization is possible to above the isoelectric point. Therefore, since there is no teaching motivation or suggestion to one of ordinary skill to arrive at the present invention based on the teachings of Akahoshi or Mitchell, reconsideration and withdrawal of the rejection of claims 1, 3 and 4-7 is requested.

Claim 6 is rejected under 35 U.S.C. 103(a) over European Patent Application EP 0958746 A1 to Takahashi. Applicants respectfully traverse the rejection. Takahashi et al. (EP 0958746 A) discloses the addition of beet pectin to a fermented milk and the like. However, Takahashi et al. is completely silent concerning the use of a low-molecularized pectin as a stabilizer for the acidic protein food. As mentioned above in the arguments traversing the rejection of claims 1, 3 and 4 over Connolly in view of Akahoshi, a normal pectin cannot be decomposed at a low temperature of around 90°C ( See Table 3 of the present specification). Therefore, it is submitted that since the claimed invention would not have been arrived at by one of ordinary skill in the art at the time of the invention, reconsideration and withdrawal of the rejection of claim 6 over Takahashi is requested.

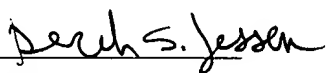
### **CONCLUSION**

For the reasons set forth above, Applicants' present invention, as recited in the amended claims now more clearly and particularly, is patentable. Reconsideration and withdrawal of all outstanding rejections in this case is hereby respectfully requested.

If further matters remain in connection with this case, the Examiner is invited to telephone the Applicant's undersigned representative to resolve them.

Respectfully submitted,

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